Environmental Technology Verification Program

Site Characterization and Monitoring Technologies

An EPA partnership with Sandia National Laboratories and Oak Ridge National Laboratory

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Koglin's Korner

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Welcome to the first issue of the Site Characterization and Monitoring Technology (SCMT) Pilot's quarterly newsletter. I realize that many of you reading this have already had some familiarity to the program, but, given that it is our first newsletter and our expectations of wide readership beyond those people familiar with ETV, we have included some introductory information to familiarize you with the program.

This newsletter is one of the means of communication we are using to keep our customers informed about the status of our pilot's verification activities. Our preoccupation with conducting technology demonstrations and preparing Environmental Technology Verification Reports (ETVRs) has until now prevented us from publication of a periodic newsletter. At our fifth pilot stakeholder meeting last September, we heard that we needed to do a better job of keeping people regularly updated about our pilot's progress and status. To remedy this shortcoming, we have added a stakeholder coordinator to the pilot staff. This change will enable us to more frequently distribute newsletters by e-mail, web site, and hard copy while still keeping up the pace in technology verification.

Another key issue raised at our September stakeholder meeting on which I would like to comment concerns the

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Introducing ETV

Since this is the first newsletter of the SCMT, it is only fitting to include a description of the program for the reader who may be hearing about the program for the first time. The Environmental Technology Verification Program is a service of the Environmental Protection Agency designed to accelerate the development and commercialization of improved environmental technology through third party verification and reporting of performance. The goal of ETV is to verify the performance characteristics of commercial-ready environmental technologies through the evaluation of objective and quality-assured data so that potential purchasers and permitters are provided with an independent and credible assessment of the technology that they are buying or permitting. ETV is intended to expand the environmental technology choices of public and private decision makers, both in our country and abroad.

ETV is a voluntary program that seeks to make objective performance information available to all of the actors in the environmental marketplace for their consideration and to assist them in making informed technology decisions. ETV does not rank technologies nor compare their performance, label or list technologies as acceptable or unacceptable, nor seek to determine "best available technology", nor approve or disapprove technologies. The program does not evaluate technologies at the bench- or pilot-scale and does not conduct or support research.

The program now operates twelve pilots covering a broad range of environmental areas. ETV has begun with a 5-year pilot phase (1995-2000) to test a wide range of partner and procedural alternatives in various pilot areas, as well as the true market demand for and response to such a program. In these pilots, EPA utilizes the expertise of partner "verification organizations" to design efficient processes for conducting performance tests of innovative technologies. EPA has selected its partners from both the public and private sectors including Federal laboratories, states, industry consortia and private sector facilities. Verification organizations oversee and report verification activities based on testing and quality assurance protocols developed with input from all major stakeholder/customer groups associated with the technology area.

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length and content of the Environmental Technology Verification Reports (ETVRs). In the three months since the stakeholder meeting we have taken a close look at the reports and decided to significantly reduce their length by removing much of the background information, focusing instead on presenting an easily accessible summary of technology performance. We feel that our new "Report-lite" format will continue to provide the key technology performance information that users require in technology survey and selection and we are interested in stakeholder feedback to measure our success in this effort.

Another area that we have been addressing is the quality management plan (QMP) for the pilot. The ETV Program Office produced an overarching quality management plan last April. One of the requirements identified in the ETV QMP was that each pilot have its own QMP in place by November 1998. Thanks to the hard work of Oak Ridge and Sandia, the SCMT pilot QMP was completed on schedule. The QMP will help insure the highest possible data quality in our pilot's verification activities. A copy of the QMP (as well as all the other ETV documents) can be found on the ETV web site at **http://www.epa.gov/etv.**

FY98 Accomplishments

Field-portable GC/MS Verification Reports Completed

- Verification statements and reports for 2 GC/MS technologies were posted at the ETV Web site (www.epa.gov/etv).
- Results from the third technology were not published since it is presently not commercially available.

PCB Measurement in Soils and Solvent Extracts Verification Completed

- 6 PCB field analytical technologies were tested.
- Verification statements and reports are posted at the ETV web site.
- An additional vendor has completed field testing and final results are expected by Jan 99.

Wellhead Chlorinated VOC Monitoring Verification Completed

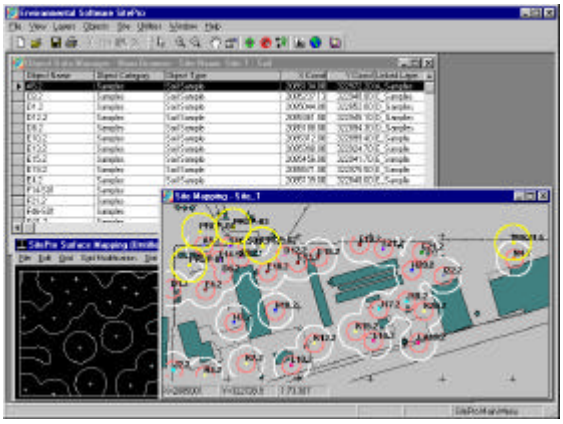
- 5 monitoring technologies tested.
- Verification statements and reports were posted at the ETV web site in Dec. '98.

Decision Support Software Field Demonstration Completed

- Vendor solicitation, selection completed.
- Demonstration plan completed.
- Field demonstration completed.
- Data analysis and reporting underway with final results expected in Spring 99.

A tremendous amount of work goes into planning and preparing for a technology verification. Over 2300 samples were prepared for the verification of 7 PCB technologies.

Three PCB immunoassay kits (D TECH, EnviroGard, and RaPID Assay System) from Strategic Diagnostics Inc. (SDI) have been verified by ETV. Here, SDI analyzes PCB-contaminated soils using the D TECH kit during verification testing.



This is a screen capture from Environmental Software's SitePro, one of the decision support software packages currently being evaluated by ETV.

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Top - Sandia technicians collect groundwater samples for use during the Wellhead Monitoring demonstration at McClellan Air Force Base near Sacramento, CA.

Bottom - The Wellhead Monitoring demonstration at Savannah River included a Visitors Day. Here, personnel from Innova AirTech Instruments describe the operation of their Model 1312 Multi-gas Monitor for the detection of TCE in groundwater samples.

FY99 Activities

New Technology Areas Identified for Verification Testing

- Groundwater Sampling Technologies
- Technologies for Explosives Detection
- Geophysical Characterization Technologies

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A Technology Verification Success Story

Recently, the Department of Energy's (DOE) Oak Ridge Operations Office needed to confirm that 7,000 empty drums, that previously contained high levels of polychlorinated biphenyl (PCB) waste, contained less than a specified regulatory level of PCBs, as the drums were being cleaned by an innovative carbon dioxide scouring method. With the approval of EPA Region 4, DOE selected an ETV-verified field technology, Dexsil Corporation's L2000 PCB/Chloride Analyzer, to perform the analyses rather than using a conventional fixed-laboratory method. On the first day of sampling, the results generated by the L2000 indicated that the cleaning process was not working as expected. Consequently, the sampling was stopped before all 7,000 drums were processed by this method. The ETV-verified technology proved extremely effective, in that it provided rapid turn-around of results, it reduced analytical costs, and, probably most importantly, the field technology prevented DOE from assuming a large liability by quickly indicating that something was wrong with the cleaning process.

FY98 Stakeholder Meeting Summary

The SCMT pilot stakeholders gathered for a one-day meeting in Washington D.C. in September '98. Walt Kovalick of the EPA Technology Innovation Office welcomed the stakeholders. Penelope Hansen of the EPA Office of Research and Development briefed the stakeholders on the Environmental Technology Verification (ETV) program. The benefits of the program include the publication of objective, credible data that will level the playing field, facilitate permitting, and expand the export market for these technologies.

Eric Koglin of EPA's National Exposure Research Laboratory in Las Vegas provided background on the transformation of the Consortium for Site Characterization Technology into the ETV Site Characterization and Monitoring Technology Pilot and gave an update on pilot activities, focusing on the verification process and the issuance of reports. Eric introduced Tom Burford of Sandia National Laboratories as the new stakeholder coordinator for the Site Characterization and Monitoring Technology Pilot.

The stakeholders broke into two groups to brainstorm on a series of questions and issues related to the ETV reports and their end use. Some suggestions from the discussion groups are given below:

- Include reference laboratory performance in summary tables
- Include data quality objective examples in the report
- Use the web to post stakeholder comments on the reports
- Clearly state technology performance limitations in the report
- Keep cost information relevant to buyers needs

The report audience was identified as project managers, technical staff, and QA managers. The viability of providing different report formats for these audiences was discussed. The challenge is to provide summary information to project managers along with more detailed technology performance information for those with more technical requirements while at the same time adhering to tight cost and schedule constraints.

The group also discussed the need to relay information from follow-on case studies and success stories to state agency project managers, consulting engineers, Superfund risk assessors, and EPA attorneys. As an example, the EPA's TIO recently completed the first in a series of case studies designed to provide cost and performance information on innovative tools. The first case study focuses on a number of innovative technologies and a dynamic, adaptive approach to streamline the overall site investigation process at Hanscom Air Force Base, MA. *Case Study: Hanscom AFB Operable Unit 1 (EPA-542-R-98-006) is available on TIO's CLU-IN Web site (clu-in.org).*

SCMT Pilot FY99 Calendar

GW Sampling

Vendor Conference – Jan 99
Vendor Selection – Feb 99
Demo Plan Complete – Feb 99
Field Demonstration – Mar 99
Data Analysis – Apr-May 99
Draft Reports – Jul 99
Publish/Post Results – Aug 99

Decision Support

Data Analysis – Jan 99
Draft Reports – April 99
Publish/Post Results – June 99

Geophysical Characterization Technologies

Vendor Solicitation – Dec 98
Site Selection – Jan 99
Prepare Demo Plan – Feb 99
Vendor Conference – Mar 99
Vendor Selection – April 99
Field Demonstration – May-June 99
Data Analysis – Jul-Aug 99
Draft Reports – Sep 99

Explosives Detection

Vendor Conference – Mar 99
Vendor Selection – April 99
Demo Plan Complete – June 99

Explosives Detection (cont)

Field Demonstration - July 99
Data Analysis Complete – Sept 99
Draft Reports Complete – Nov 99
Publish/Post Results – Nov 99

For more information on the Environmental Technology Verification (ETV) program, please visit the Pilot home page at:

http://www.epa.gov/etv/ ***or*** http://clu-in.org

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